G. W. HUBBELL.

Japanning Apparatus.

No. 47,826. Patented May 23, 1865.

Fig. 5

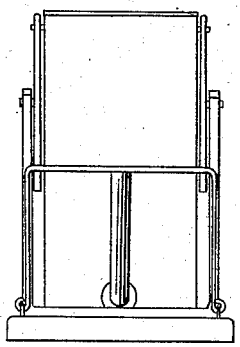


Fig. 4

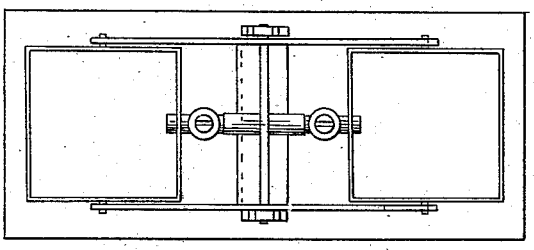


Fig. 1

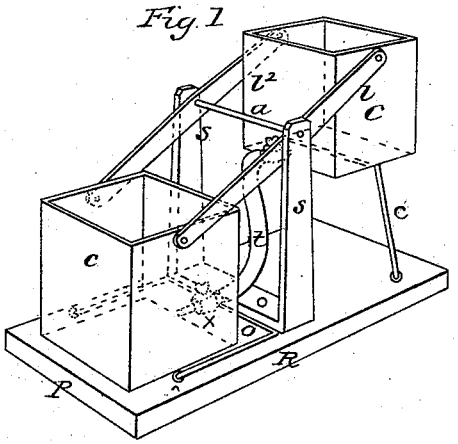


Fig. 2

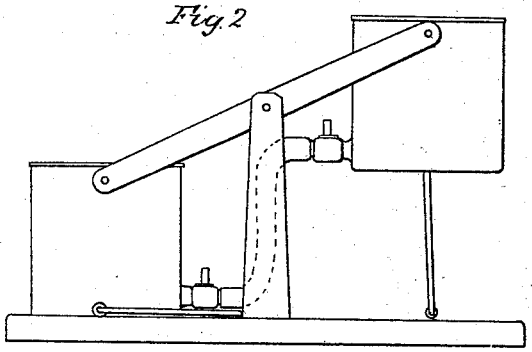
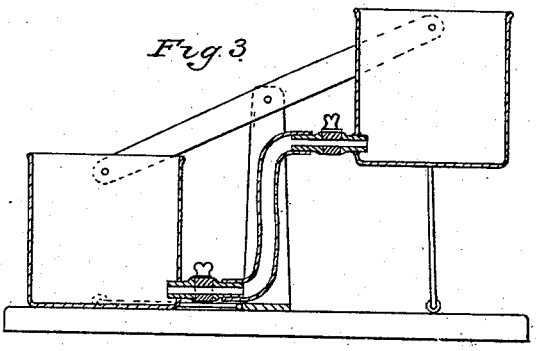


Fig. 3



Witnesses
D. C. Hollister
F. B. Johnson

Inventor
George W. Glover Hubbell

UNITED STATES PATENT OFFICE.

GEORGE WOLSEY HUBBELL, OF DERBY, CONNECTICUT.

IMPROVED APPARATUS FOR JAPANNING.

Specification forming part of Letters Patent No. **47,826**, dated May 23, 1865.

To all whom it may concern:

Be it known that I, GEORGE WOLSEY HUBBELL, of the town of Derby, in the county of New Haven and State of Connecticut, have invented a new and useful Machine for Japanning; and I do hereby declare that the following is a full and exact description, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in applying a uniform coating of japan to all kinds of metallic articles by first immersing the articles in liquid japan and then drawing the japan away from the articles, leaving them covered with a coating of a uniform thickness in all parts and also of any desired thickness. This I do by means of my machine.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation—and first as to its construction.

Figure I shows my machine in perspective, and shows all its parts, which are as follows—to wit:

p p is a wooden platform five feet in length, twenty-seven inches in breadth, and three inches in thickness.

s ∮ s is a continuous bar of iron so bent as to form two right angles, leaving the section *∮* twenty-two inches in length, and each of the two supporters *s s* twenty-eight inches in length. These supporters *s s* are fastened to the platform *p p* by means of strong screws or bolts through the section *∮*, fastening that section across the platform and equidistant from each end thereof. Said bar of iron is about five inches in width and one inch thick.

a is an iron rod one inch in diameter and of equal length with section *∮* of the supporter—to wit, twenty-two inches. This rod is an axle. Its two ends are securely fastened into the two ends of the supporter *s s* at the point . . in section *s* of the supporter and at a like point in section *s* of the supporter.

l l² are two levers of iron, four feet in length, three inches in width, and one inch thick. They are each perforated with a hole through the center, through which passes the rod *a*, which forms an axle upon which the levers turn. The levers are alike, and a description of one will apply equally to the other. The lever *l* is pierced with a three-fourths inch hole at each end thereof and one and one-half inches from its extreme end, at the points marked , ,.

c ϕ are two cans exactly alike, made of sheet-iron, each of them eighteen inches deep, eighteen inches wide, and eighteen inches long, being in the form of a cube and open at the top. I will describe can *c*, and a description of this will be a description of can *ϕ*. Can *c* has two ears or trunnions opposite each other, two inches from the top of the can and in its center, measuring from side to side, so that when the can is suspended by these ears it will hang level on the top and bottom. These ears are made to fit and do pass through the holes before spoken of in the levers *l l²* at the points , , and are made to turn easily in said holes, so that the cans *c ϕ* are attached to the levers *l l²*, and are attached in such a manner that one of the cans can be elevated and the other depressed without throwing either can out of its level position. The cans *c ϕ* and levers *l l²* are so arranged and connected that when the bottom of can *c* rests on the platform *p p* the top of can *c* is level with the bottom of can *ϕ*. The said ears are made of iron and are of sufficient length to pass through the levers *l l²* at the points , ,. The cans *c ϕ* are connected with each other by means of the tube *t* and the two cocks × ⅌. The tube *t* is made of some flexible material—either cloth, leather, or rubber—and is one inch in diameter on the inside. It is attached to the two cocks × ⅌, each of which has a calible equal in diameter to that of the tube *t*. The cock ⅌ is placed in that side of can *ϕ* which is toward can *c* and close to the bottom of can *c*, and in its center, measuring from side to side. The cock × is placed in that side of can *c* which is toward can *ϕ*, close to the bottom of the can and its center, measuring from side to side.

o ϕ are two iron bails which hook into staples in the platform *p p* at points ^ ^, both sides being alike. These bails are made of three-fourth-inch square iron rods, and their use is to support the cans *c ϕ* when they are elevated. When the can *c* is elevated, as shown in Fig. I, the bail *ϕ* turns up and supports the can. When the can is depressed, the bail turns down, as shown in *o*.

Figs. II, III, IV, and V show, respectively, side views, section, top view, and end view, of my machine.

The way in which my machine operates is this—viz: The top of can ϕ being open, the articles to be japanned are placed in it, either on a frame or suspended by means of hoops and wires. (I claim no particular way of placing the articles in the can.) The can with the articles in it is then filled with liquid japan and raised to the position shown in Fig. I. Can *c* is then filled with a lot of articles arranged as aforesaid. The cocks ⅋ × are turned and the japan drawn off from can ϕ into can *c*, thus immersing the articles in can *c*. The articles in can ϕ are removed and a fresh lot placed therein. When can ϕ is depressed, can *c* is elevated, the cocks ⅋ × (having been closed while the cans are changing position) opened, and the japan drawn from can *c* into can ϕ, and so on.

By means of regulating the cocks, I get a thicker or thinner coat of japan, for by drawing off the japan slowly I get a thick coating of japan on the articles to be japanned, and by drawing off the japan rapidly a thin coating is left on said articles.

I do not claim any particular form for my machine, nor any particular size. There is no special peculiarity about any of its parts.

What I claim as my invention, and desire to secure by Letters Patent, is—

The plan of drawing off or removing the liquid japan from the articles japanned, keeping said articles stationary, whether this is effected by means of the mechanism hereinbefore described or by means of a pump, siphon, or any mechanical process, whereby the liquid japan is removed from said articles, leaving them stationary.

GEORGE WOLSEY HUBBELL.

Witnesses:

W. J. W. HUBBELL,

S. B. JOHNSON.